

1.1 INTRODUCTION

The Tanks Section of the Missouri Department of Natural Resources' (MDNR) Hazardous Waste Program is charged with the task of overseeing response actions at regulated petroleum storage tank sites (both underground and aboveground) having petroleum hydrocarbon contamination. The primary objective and responsibility of the Tanks Section is to protect human health and the environment. Because the science and state of practice related to the investigation and remediation of contamination at tank sites has advanced in recent years, MDNR, with the help of a stakeholder group¹, undertook an effort to review and revise the process by which tank sites are investigated and remediated. That effort led to the development of a process that focuses on the actual and potential risks petroleum contamination poses to human health and the environment. The Tanks Section's efforts are consistent with, and a part of, MDNR's agency-wide effort to establish a consistent risk-based approach for the management of contaminated sites in Missouri.

The approach presented in this guidance document is intended to result in a more consistent and predictable regulatory process for property owners and developers who are managing issues related to releases from petroleum storage tanks. In addition, the approach presented herein will likely result in a reduction in the overall cost of remediating petroleum storage tank sites while maintaining acceptable risk levels. Although MDNR will not allow cost considerations to compromise public health or the environment, it recognizes the need to promote cost-effective site activities (characterization as well as remediation) that are protective of human health and the environment.

This integrated risk-based decision-making framework for the investigation and remediation of petroleum impacted sites is subsequently referred to as the Missouri Risk-Based Corrective Action (MRBCA) process. This customized process builds on the generic framework developed by the American Society for Testing and Materials (ASTM) in their standard E1739-95.

1.2 APPLICABILITY AND PURPOSE

The MRBCA process is applicable to all media and all regulated petroleum storage tank sites (both aboveground and underground). Neither the entity responsible for the tanks nor the MDNR have the choice of picking or choosing the media or sites to which this process will apply, except during the transition period when sites that are close to receiving a "No Further Action" (NFA) letter from MDNR will be managed under MDNR's existing guidance. MDNR will not require that sites previously granted a NFA letter be reevaluated under the MRBCA process unless new information related to previously addressed or new hydrocarbon releases at the site becomes available.

¹ Refer to the June 2003 *MDNR Preliminary Draft Process Document* for a list of group members.

This document does not in any way replace or supercede MDNR's enforcement or permitting authority, notification requirements, or other applicable requirements, nor does it reduce any of the responsible party's obligations under state or federal laws or regulations.

The intent of the MRBCA process for tank sites is to ensure sites are adequately characterized and to provide a means by which site-specific target levels can be developed. These levels are protective of human health and the environment under current and reasonably anticipated future conditions. This document provides a technically defensible procedure for developing site-specific risk-based target levels and investigating releases at petroleum storage tank sites.

This document has been developed for environmental professionals having experience in, and a working knowledge of, site assessment and investigation, risk assessment, and remedial actions. Technical information is included that describes the MRBCA process and its elements, including site assessment, risk assessment, risk management, and the tank closure process as developed by MDNR. Since the development of risk-based target levels is an integral part of the overall process of risk management and has not been described earlier in Missouri's guidance documents, the calculation of risk-based target levels is described at length in this manual. However, this manual is not intended to be a general guide to every aspect of the practice of risk assessment. Prior experience or training is necessary for an individual to correctly implement the MRBCA process and, by that, ensure efficient site management.

Note that this guidance document replaces the following MDNR documents pertaining to petroleum storage tanks and tank sites:

- March 1996. *Underground Storage Tank Closure Guidance Document*,
- February 1992. *Underground Storage Tank Site Characterization Guidance Document*, and
- February 1992. *Petroleum Storage Tank Corrective Action Guidance Document*.

1.3 SPILL REPORTING

Report petroleum releases at the earliest practical moment to MDNR at (573) 634-2436.

The purpose and intent of this guidance is to provide a process for addressing petroleum releases in a manner that is protective of human health and the environment. This guidance does not relieve persons from the requirements of Section 260.500 to 260.550 RSMo, commonly referred to as the "Spill Bill," or the regulations promulgated thereunder. For any given site, various measures may be required by MDNR to address a hazardous substance emergency. At a minimum, all releases of petroleum greater than 50 gallons (25 gallons for underground storage tank (UST) sites) shall be reported at the earliest practical moment to MDNR at (573) 634-2436.